



#4

SEQUENCE LISTING

<110> Millennium Pharmaceuticals, Inc.
Meyers, Rachel
Silos-Santiago, Inmaculada

<120> 32544, a novel human phospholipase C and
uses thereof

<130> 38155-20048.00

<140> US 09/927,112

<141> 2001-08-10

<150> US 60/246,808

<151> 2000-11-08

<160> 17

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Glu	Val	Ser	Asp	Glu	Asp	Ser	Ala	Asp	Glu	Ile	Asp	Asp	Asp	Cys
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Leu	Leu	Asn	Gly	Asp	Ala	Ser	Thr	Asn	Arg	Lys	Arg	Val	Glu	Asn
			500					505					510	Thr
Ala	Lys	Arg	Lys	Leu	Asp	Ser	Leu	Ile	Lys	Glu	Ser	Lys	Ile	Arg
	515						520					525		Asp
Cys	Glu	Asp	Pro	Asn	Asn	Phe	Ser	Val	Ser	Thr	Leu	Ser	Pro	Ser
	530					535					540			Gly
Lys	Leu	Gly	Arg	Lys	Ser	Lys	Ala	Glu	Glu	Asp	Val	Glu	Ser	Gly
545					550					555				560
Asp	Ala	Gly	Ala	Ser	Arg	Arg	Asn	Gly	Arg	Leu	Val	Val	Gly	Ser
			565						570					575
Ser	Arg	Arg	Lys	Lys	Lys	Gly	Ser	Lys	Leu	Lys	Lys	Ala	Ala	Ser
			580					585					590	Val
Glu	Glu	Gly	Asp	Glu	Gly	Gln	Asp	Ser	Pro	Gly	Gly	Gln	Ser	Arg
		595					600					605		Gly
Ala	Thr	Arg	Gln	Lys	Lys	Thr	Met	Lys	Leu	Ser	Arg	Ala	Leu	Ser
	610					615					620			Asp
Leu	Val	Lys	Tyr	Thr	Lys	Ser	Val	Ala	Thr	His	Asp	Ile	Glu	Met
625					630					635				640
Ala	Ala	Ser	Ser	Trp	Gln	Val	Ser	Ser	Phe	Ser	Glu	Thr	Lys	Ala
				645					650					655
Gln	Ile	Leu	Gln	Gln	Lys	Pro	Ala	Gln	Tyr	Leu	Arg	Phe	Asn	Gln
			660					665					670	Gln
Gln	Leu	Ser	Arg	Ile	Tyr	Pro	Ser	Ser	Tyr	Arg	Val	Asp	Ser	Ser
	675						680					685		Asn
Tyr	Asn	Pro	Gln	Pro	Phe	Trp	Asn	Ala	Gly	Cys	Gln	Met	Val	Ala
	690					695				700				Leu
Asn	Tyr	Gln	Ser	Glu	Gly	Arg	Met	Leu	Gln	Leu	Asn	Arg	Ala	Lys
705					710					715				720
Ser	Ala	Asn	Gly	Gly	Cys	Gly	Tyr	Val	Leu	Lys	Pro	Gly	Cys	Met
			725						730					735
Gln	Gly	Val	Phe	Asn	Pro	Asn	Ser	Glu	Asp	Pro	Leu	Pro	Gly	Gln
			740					745					750	Leu
Lys	Lys	Gln	Leu	Val	Leu	Arg	Ile	Ile	Ser	Gly	Gln	Gln	Leu	Pro
		755					760					765		Lys

Pro Arg Asp Ser Met Leu Gly Asp Arg Gly Glu Ile Ile Asp Pro Phe
 770 775 780
 Val Glu Val Glu Ile Ile Gly Leu Pro Val Asp Cys Ser Arg Glu Gln
 785 790 795 800
 Thr Arg Val Val Asp Asp Asn Gly Phe Asn Pro Thr Trp Glu Glu Thr
 805 810 815
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 820 825 830
 Val Trp Asp His Asp Pro Ile Gly Arg Asp Phe Ile Gly Gln Arg Thr
 835 840 845
 Leu Ala Phe Ser Ser Met Met Pro Gly Tyr Arg His Val Tyr Leu Glu
 850 855 860
 Gly Met Glu Glu Ala Ser Ile Phe Val His Val Ala Val Ser Asp Ile
 865 870 875 880
 Ser Gly Lys Val Lys Gln Ala Leu Gly Leu Lys Gly Leu Phe Leu Arg
 885 890 895
 Gly Pro Lys Pro Gly Ser Leu Asp Ser His Ala Ala Gly Arg Pro Pro
 900 905 910
 Ala Arg Pro Ser Val Ser Gln Arg Ile Leu Arg Arg Thr Ala Ser Ala
 915 920 925
 Pro Thr Lys Ser Gln Lys Pro Gly Arg Arg Gly Phe Pro Glu Leu Val
 930 935 940
 Leu Gly Thr Arg Asp Thr Gly Ser Lys Gly Val Ala Asp Asp Val Val
 945 950 955 960
 Pro Pro Gly Pro Gly Pro Ala Pro Glu Ala Pro Ala Gln Glu Gly Pro
 965 970 975
 Gly Ser Gly Ser Pro Arg Gly Lys Ala Pro Ala Ala Val Ala Glu Lys
 980 985 990
 Ser Pro Val Arg Val Arg Pro Pro Arg Val Leu Asp Gly Pro Gly Pro
 995 1000 1005
 Ala Gly Met Ala Ala Thr Cys Met Lys Cys Val Val Gly Ser Cys Ala
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 1025 1030 1035 1040
 Pro Ala Ser Arg Gln Ala Ala Ile Arg Gln Gln Pro Arg Ala Arg Ala
 1045 1050 1055
 Asp Ser Leu Gly Ala Pro Cys Cys Gly Leu Asp Pro His Ala Ile Pro
 1060 1065 1070
 Gly Arg Ser Arg Glu Ala Pro Lys Gly Pro Gly Ala Trp Arg Gln Gly
 1075 1080 1085
 Pro Gly Gly Ser Gly Ser Met Ser Ser Asp Ser Ser Pro Asp Ser
 1090 1095 1100
 Pro Gly Ile Pro Glu Arg Ser Pro Arg Trp Pro Glu Gly Ala Cys Arg
 1105 1110 1115 1120
 Gln Pro Gly Ala Leu Gln Gly Glu Met Ser Ala Leu Phe Ala Gln Lys
 1125 1130 1135
 Leu Glu Glu Ile Arg Ser Lys Ser Pro Met Phe Ser Ala Gly Lys Pro
 1140 1145 1150
 Leu Leu Pro Cys Val Val Leu Pro His Ala Pro Gly Met Ala Gly Pro
 1155 1160 1165
 Gly Ser Pro Ala Ala Ala Ser Ala Trp Thr Val Ser Pro Arg Val Leu
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<210> 3
 <211> 3624
 <212> DNA
 <213> Homo sapiens

<400> 3
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 tgcattgggtg ccatgcaaga ggggatgcag atggtgaagc tgcgtggcg ctccaagggc 180
 ctggctccgt tctactacct ggacgagcac cgtctctgca tccgctggag gccctcacgc 240
 aagaacgaga aggccaagat ctccatcgac tccatccagg aggtgagtga ggggcggcag 300
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 taccacggca gccaccgca gtcgctggac ctggtctcca ccagcagcga ggtggcgcgc 420
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ccttggett	cctgtggccc	atag				3624

<210> 4
 <211> 85
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Consensus amino acid

<400> 4
 Val Ile Lys Glu Gly Trp Leu Leu Lys Lys Ser Lys Ser Trp Lys Lys
 1 5 10 15
 Arg Tyr Phe Val Leu Phe Asn Asn Val Leu Leu Tyr Tyr Lys Asp Ser
 20 25 30
 Lys Lys Lys Pro Lys Gly Ser Ile Pro Leu Ser Gly Cys Gln Val Glu
 35 40 45
 Lys Pro Asp Lys Asn Cys Phe Glu Ile Arg Thr Asp Arg Thr Leu Leu
 50 55 60
 Leu Gln Ala Glu Ser Glu Glu Arg Lys Glu Trp Val Lys Ala Ile
 65 70 75 80
 Gln Ser Ala Ile Arg
 85

<210> 5
 <211> 29
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Consensus amino acid

<400> 5
 Glu Leu Lys Glu Ala Phe Lys Glu Phe Asp Lys Asp Gly Asp Gly Lys
 1 5 10 15
 Ile Ser Phe Glu Glu Phe Lys Ala Ala Leu Lys Lys Leu
 20 25

<210> 6
 <211> 29
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Consensus amino acid

<400> 6
 Glu Leu Lys Glu Ala Phe Lys Glu Phe Asp Lys Asp Gly Asp Gly Lys

1		5		10		15						
Ile	Ser	Phe	Glu	Glu	Phe	Lys	Ala	Ala	Leu	Lys	Lys	Leu
			20				25					

<210> 7
 <211> 153
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Consensus amino acid

<400> 7

Asp	Met	Ser	Ile	Pro	Leu	Ser	His	Tyr	Phe	Ile	Ser	Ser	Ser	His	Asn
1				5					10					15	
Thr	Tyr	Leu	Thr	Gly	Lys	Gln	Leu	Trp	Gly	Lys	Ser	Ser	Val	Glu	Ser
			20					25					30		
Tyr	Arg	Gln	Gln	Leu	Asp	Ala	Gly	Cys	Arg	Cys	Val	Glu	Leu	Asp	Cys
		35					40					45			
Trp	Asp	Gly	Lys	Pro	Asp	Asp	Glu	Pro	Ile	Ile	Tyr	His	Gly	His	Thr
	50					55					60				
Leu	Thr	Leu	Glu	Ile	Lys	Leu	Lys	Asp	Val	Leu	Glu	Ala	Ile	Lys	Asp
65					70					75				80	
Phe	Ala	Phe	Lys	Pro	Thr	Ser	Pro	Tyr	Pro	Val	Ile	Leu	Ser	Leu	Glu
			85						90					95	
Asn	His	Cys	Asn	Ser	Asp	Asp	Gln	Gln	Arg	Lys	Met	Ala	Lys	Tyr	Phe
			100					105						110	
Lys	Glu	Ile	Phe	Gly	Asp	Met	Leu	Leu	Thr	Lys	Pro	Thr	Leu	Asp	Ser
		115					120					125			
Leu	Thr	Thr	Glu	Pro	Gly	Leu	Pro	Leu	Pro	Ser	Leu	Lys	Asp	Leu	Arg
	130					135						140			
Gly	Lys	Ile	Leu	Leu	Lys	Asn	Lys	Lys							
145						150									

<210> 8
 <211> 128
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Consensus amino acid

<400> 8

Glu	Leu	Ser	Asn	Leu	Val	Asn	Tyr	Ile	Gln	Ser	Ile	Lys	Phe	Arg	Ser
1				5					10					15	
Phe	Glu	Leu	Ser	Gly	Glu	Glu	Lys	Asn	Thr	Ser	Tyr	Glu	Ile	Ser	Ser
			20					25					30		
Phe	Ser	Glu	Arg	Lys	Val	Lys	Ala	Lys	Lys	Leu	Leu	Lys	Glu	Ser	Pro
		35					40					45			
Val	Glu	Phe	Val	Lys	Tyr	Asn	Lys	Arg	Gln	Leu	Ser	Arg	Val	Tyr	Pro
	50					55					60				
Lys	Gly	Thr	Arg	Val	Asp	Ser	Ser	Asn	Phe	Met	Pro	Gln	Val	Phe	Trp
65					70					75				80	
Asn	Ala	Gly	Cys	Gln	Met	Val	Ala	Leu	Asn	Phe	Gln	Thr	Ser	Asp	Leu
			85						90					95	
Pro	Met	Gln	Ile	Asn	Asp	Gly	Met	Phe	Glu	Tyr	Asn	Gly	Gly	Gln	Pro
			100					105						110	

Asp Gly Ser Phe Lys Ser Gly Tyr Leu Leu Lys Pro Glu Phe Leu Arg
 115 120 125

<210> 9
 <211> 95
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Consensus amino acid

<400> 9
 Leu Thr Val Thr Val Ile Glu Ala Arg Asn Leu Pro Lys Met Asp Lys
 1 5 10 15
 Val Asn Gly Arg Leu Ser Asp Pro Tyr Val Lys Val Ser Leu Leu Gly
 20 25 30
 Asp Lys Lys Asp Leu Lys Lys Phe Lys Thr Lys Val Val Lys Lys Thr
 35 40 45
 Asn Gly Leu Asn Pro Val Trp Asn Glu Glu Thr Phe Val Phe Glu Lys
 50 55 60
 Val Pro Leu Pro Glu Leu Ala Ser Lys Thr Leu Arg Phe Ala Val Tyr
 65 70 75 80
 Asp Glu Asp Arg Phe Ser Arg Asp Asp Phe Ile Gly Gln Val Thr
 85 90 95

<210> 10
 <211> 325
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Consensus amino acid

<400> 10
 Gln Val Lys Gln Ala Leu Gly Leu Lys Gly Leu Phe Leu Arg Gly Pro
 1 5 10 15
 Lys Pro Gly Ser Leu Asp Ser His Ala Ala Gly Arg Pro Pro Ala Arg
 20 25 30
 Pro Ser Val Ser Gln Arg Ile Leu Arg Arg Thr Ala Ser Ala Pro Thr
 35 40 45
 Lys Ser Gln Lys Pro Gly Arg Arg Gly Phe Pro Glu Leu Val Leu Gly
 50 55 60
 Thr Arg Asp Thr Gly Ser Lys Gly Val Ala Asp Asp Val Val Pro Pro
 65 70 75 80
 Gly Pro Gly Pro Ala Pro Glu Ala Pro Ala Gln Glu Gly Pro Gly Ser
 85 90 95
 Gly Ser Pro Arg Gly Lys Ala Pro Ala Ala Val Ala Glu Lys Ser Pro
 100 105 110
 Val Arg Val Arg Pro Pro Arg Val Leu Asp Gly Pro Gly Pro Ala Gly
 115 120 125
 Met Ala Ala Thr Cys Met Lys Cys Val Val Gly Ser Cys Ala Gly Val
 130 135 140
 Asn Thr Gly Gly Leu Gln Arg Glu Arg Pro Pro Ser Pro Gly Pro Ala
 145 150 155 160
 Ser Arg Gln Ala Ala Ile Arg Gln Gln Pro Arg Ala Arg Ala Asp Ser
 165 170 175
 Leu Gly Ala Pro Cys Cys Gly Leu Asp Pro His Ala Ile Pro Gly Arg

			180					185					190				
Ser	Arg	Glu	Ala	Pro	Lys	Gly	Pro	Gly	Ala	Trp	Arg	Gln	Gly	Pro	Gly		
		195					200					205					
Gly	Ser	Gly	Ser	Met	Ser	Ser	Asp	Ser	Ser	Ser	Pro	Asp	Ser	Pro	Gly		
	210					215					220						
Ile	Pro	Glu	Arg	Ser	Pro	Arg	Trp	Pro	Glu	Gly	Ala	Cys	Arg	Gln	Pro		
225					230					235					240		
Gly	Ala	Leu	Gln	Gly	Glu	Met	Ser	Ala	Leu	Phe	Ala	Gln	Lys	Leu	Glu		
			245						250					255			
Glu	Ile	Arg	Ser	Lys	Ser	Pro	Met	Phe	Ser	Ala	Gly	Lys	Pro	Leu	Leu		
		260						265					270				
Pro	Cys	Val	Val	Leu	Pro	His	Ala	Pro	Gly	Met	Ala	Gly	Pro	Gly	Ser		
	275						280					285					
Pro	Ala	Ala	Ala	Ser	Ala	Trp	Thr	Val	Ser	Pro	Arg	Val	Leu	Val	Leu		
	290					295				300							
Val	Ala	Leu	Tyr	Pro	Trp	His	Cys	Leu	Arg	Gly	Thr	Leu	Leu	Pro	Trp		
305					310					315					320		
Leu	Ala	Cys	Gly	Pro													
				325													

<210> 11

<211> 158

<212> PRT

<213> Artificial Sequence

<220>

<223> Consensus amino acid

<400> 11

Ser	Pro	Asp	Cys	Asn	Val	Phe	Asp	Pro	Glu	His	Lys	Gln	Val	His	Gln		
1				5					10					15			
Asp	Met	Asn	Gln	Pro	Leu	Ser	His	Tyr	Phe	Ile	Asn	Ser	Ser	His	Asn		
		20						25				30					
Thr	Tyr	Leu	Thr	Gly	Asn	Gln	Leu	Ser	Ser	Gly	Glu	Ser	Ser	Val	Glu		
	35					40						45					
Met	Tyr	Arg	Gln	Ala	Leu	Leu	Lys	Gly	Cys	Arg	Cys	Ile	Glu	Leu	Asp		
	50					55					60						
Cys	Trp	Asp	Gly	Lys	Asp	Gly	Asp	Pro	Glu	Pro	Ile	Ile	Thr	His	Gly		
65					70					75					80		
His	Thr	Met	Thr	Thr	Glu	Ile	Ser	Phe	Lys	Asp	Cys	Leu	Glu	Ala	Ile		
			85						90						95		
Lys	Glu	His	Ala	Phe	Val	Thr	Ser	Glu	Tyr	Pro	Val	Ile	Leu	Ser	Leu		
		100						105					110				
Glu	Asn	His	Cys	Asp	Ser	Thr	Pro	Gln	Gln	Gln	Ala	Lys	Met	Ala	Glu		
	115						120					125					
Tyr	Cys	Lys	Glu	Val	Phe	Gly	Asp	Met	Leu	Phe	Thr	Glu	Pro	Leu	Glu		
	130					135					140						
Glu	Ser	Pro	Leu	Glu	Pro	Gly	Lys	Glu	Leu	Pro	Ser	Pro	Glu				
145					150						155						

<210> 12

<211> 41

<212> PRT

<213> Artificial Sequence

<220>

<223> Consensus amino acid

<400> 12

Lys Arg Lys Ile Leu Ile Lys Asn Lys Lys Leu Lys Glu His Ser Glu
1 5 10 15
Glu Lys Glu Ser Glu Glu Lys Lys Thr Asp Glu Glu Thr Glu Ser Glu
20 25 30
Glu Glu Asp Glu Met Gly Ser Asp Ala
35 40

<210> 13

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Consensus amino acid

<400> 13

Pro Gly Lys Glu Leu Pro Ser Pro Glu Glu Leu Lys Arg Lys Ile Leu
1 5 10 15
Ile Lys

<210> 14

<211> 181

<212> PRT

<213> Artificial Sequence

<220>

<223> Consensus amino acid

<400> 14

Cys Leu Gln Phe Met Gln Lys Gly Ser Glu Leu Lys Lys Val Arg Ser
1 5 10 15
Asn Ser Trp Lys Tyr Asn Arg Tyr Phe Thr Leu Asp Asp Asp Met Gln
20 25 30
Thr Leu Trp Trp Glu Pro His Trp Phe Ser Lys Lys Asp Ser Glu Lys
35 40 45
Pro Lys Phe Asp Ile Ser Asp Ile Lys Glu Ile Arg Met Gly Lys Asn
50 55 60
Thr Glu Thr Phe Arg Asn Asn Gly Lys Glu Phe Gln Ile Gln Glu Pro
65 70 75 80
Glu Asp Cys Cys Phe Ser Ile Ile Phe Gly Glu Asn Tyr Phe His Glu
85 90 95
Ser Leu Asp Leu Val Ala Asn Ser Ala Asp Val Ala Asn Ile Trp Val
100 105 110
Ser Gly Leu Arg Tyr Leu Val Asp Tyr Ala Lys His Met Leu Asp Asn
115 120 125
Tyr Gln Glu Gln Leu Asp Gln Trp Leu Arg Glu Trp Phe Gln Gln Ala
130 135 140
Asp Arg Asn Lys Asp Ser Arg Met Ser Phe Arg Glu Ala Gln Asn Leu
145 150 155 160
Leu Lys Leu Met Asn Val Gln Met Asp Glu Glu Tyr Ala Phe Ser Ile
165 170 175
Phe Arg Glu Cys Asp
180

<210> 15
 <211> 134
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Consensus amino acid

<400> 15
 Phe Asp Glu Phe Asp Thr Asp Gly Asn Gly His Leu Asp Glu Gln Thr
 1 5 10 15
 Ala Phe Lys Cys Ile Lys His Leu Asn Pro Arg Leu Lys His His Lys
 20 25 30
 Ile Thr Asn Lys Phe Lys Glu Ile Thr Ile Lys Ser Lys Glu Lys Glu
 35 40 45
 Arg Thr Lys Ile Thr Lys Glu His Phe Val Asp Leu Tyr Lys Glu Leu
 50 55 60
 Gly Thr Arg Pro Glu Val Tyr Phe Leu Met Val Gln Tyr Ser Lys Asn
 65 70 75 80
 Lys Asp Tyr Leu Asp Cys Gln Asp Leu Met Leu Phe Leu Glu Thr Glu
 85 90 95
 Gln Gly Met Val His Val Thr Glu Asp Asn Cys Leu Asp Ile Ile Glu
 100 105 110
 Gln Tyr Glu Pro Cys Ser Glu Gly Arg Glu Asn Gly Trp Met Thr Ile
 115 120 125
 Asp Gly Phe Thr Ser Tyr
 130

<210> 16
 <211> 92
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Consensus amino acid

<400> 16
 Phe Ser Ser Leu Val Pro Gly Tyr Arg His Val Tyr Leu Glu Gly Leu
 1 5 10 15
 Thr Glu Ala Ser Ile Phe Val His Ile Thr Ile Asn Glu Ile Tyr Gly
 20 25 30
 Lys Asn Arg Gln Leu Gln Gly Leu Lys Gly Leu Phe Asn Lys Asn Pro
 35 40 45
 Arg His Ser Ser Ser Glu Asn Asn Ser His Tyr Val Arg Lys Arg Ser
 50 55 60
 Ile Gly Asp Arg Ile Leu Arg Arg Thr Ala Ser Ala Pro Ala Lys Gly
 65 70 75 80
 Arg Lys Lys Ser Lys Met Gly Phe Gln Glu Met Val
 85 90

<210> 17
 <211> 51
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Consensus amino acid

<223> Xaa = Any Amino Acid

Phe Tyr Trp
50